



UNITED STATES PATENT AND TRADEMARK OFFICE

NV
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,136	12/01/2003	Axel Buerke	INF-118	1208
7590	09/24/2004		EXAMINER	
SHAW PITTMAN LLP 1650 TYSONS BOULEVARD MCLEAN, VA 22102			VU, HUNG K	
			ART UNIT	PAPER NUMBER
			2811	

DATE MAILED: 09/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/724,136	BUERKE ET AL.	
	Examiner	Art Unit	
	Hung K. Vu	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 17 August 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 8-15 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-7 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/10/04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Invention of Group I, Claims 1-7, in the reply filed on 08/17/04 is acknowledged.

2. Claims 8-15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Invention, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on 08/17/04.

Claim Objections

3. Claims 3-5 are objected to because of the following informalities:

In claim 3, line 3, "a conductive material" should be changed to "the conductive material" for clarity.

In claim 4, lines 2 and 3, "a conductive material" should be changed to "the conductive material" for clarity.

In claim 5, lines 2 and 3, "a conductive material" should be changed to "the conductive material" for clarity.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, lines 4-5, the phrase “the first layer and of the second layer may be comprised of the same conductive material” is unclear as to what “of the second layer” is? And the word “may be” is unclear as to whether the limitation should be included or excluded from the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Akram et al. (PN 6,271,590).

Akram et al. discloses, as shown in Figures 5 and 6, a microelectronic component comprising at least one barrier layer (50 or 50b) formed from WN_x , where x is selected as a value between 0.3 and 0.5 [Col. 4, lines 1-7].

With regard to claim 2, Akram et al. discloses the component further comprising a first layer (52 or 50c) made of a conductive material adjoining at least one side of the barrier layer formed from WN_x .

With regard to claim 3, Akram et al. discloses the component further comprising a second layer (48 or 50a) made of a conductive material adjoining the side of the barrier layer formed from WN_x , opposite to the first layer made of the conductive material,

wherein the first layer and the second layer comprise the same or different conductive material..

With regard to claim 4, Akram et al. discloses the component further comprising a layer stack that is constructed from at least the first layer made of the conductive material,

the barrier layer formed from WN_x and the second layer made of the conductive material forming a contact between an interconnect and a structural element of the microelectronic component.

With regard to claim 5, Akram et al. discloses the component further comprising a layer stack that is constructed from at least the first layer made of the conductive material,

the barrier layer formed from WN_x and the second layer made of the conductive material forming a gate electrode of a transistor.

With regard to claim 6, Akram et al. discloses at least one of the first layer and the second layer is constructed from tungsten.

With regard to claim 7, Akram et al. discloses at least one of the first layer and the second layer being constructed from polysilicon.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung K. Vu whose telephone number is (703) 308-4079. The examiner can normally be reached on Mon-Thurs 6:00-3:30, alternate Friday 7:00-3:30, Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (703) 308-1690. The Central Fax Number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Vu

August 28, 2004

Hung Vu
Hung Vu

Patent Examiner